DAU Acquisition Community Symposium

Innovations in Sustaining Weapons Systems

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Agenda

- Sustainment Key Performance Parameter (KPP)
- Background
- Definitions
- Applicability
- Guidance
- Observations

How can we establish a Life-Cycle systems approach to…

- ✓ ***Link acquisition to sustainment***
- ✓ ***Manage our systems as fleets –"cradle to grave"***
- ✓ ***Use life-cycle sustainment metrics during development***

Why We Needed A KPP

- Material availability and reliability at best value were not adequately designed into systems

- Serious risks to programs over time:
  - Breach of Nunn-McCurdy thresholds
  - Costs more than anticipated to own
  - Failure to achieve availability expected by the warfighter

- Lack of consistent guidance across all services and programs addressing reliability, availability, and maintainability

- KPP exists to provide PMs and the acquisition process, and logistics a framework to assess sustainment

Background

- JROC Memorandum 161-06, Aug 06
  - Identified ***need for KPP process to address sustainment issues***
- Memorandum from OSD AT&L, Mar 07
  - Mandate to ***establish sustainment KPP process***
- CJCS-M 3170.01C, "Operation of JCIDS" (May 07) ***mandated implementation*** of:
  - KPP for Materiel Availability
  - KSA for Materiel Reliability
  - KSA for Ownership Costs

Definitions

- Material Availability (KPP):
  - Measures the percentage of the total inventory of a system that is operationally capable *(ready for tasking) of performing an assigned mission*, at a given time, based on materiel condition.

$$\frac{\textit{(number of operational end items)}}{\textit{(total number of end items acquired)}} \quad \textbf{or} \quad \frac{\textit{(uptime)}}{\textit{(uptime) + (downtime)}}$$

- Material Reliability (KSA):
  - Measures the probability that the system will *perform without failure* over a specified interval.

$$\textit{Mean Time Between Failures} \quad \frac{\textit{operating hours}}{\textit{number of failures during operating period}}$$

- Ownership Cost (KSA):
  - Provides balance to the sustainment solution by ensuring that the Operations and Support (O&S) costs associated with Materiel Readiness (e.g.. maintenance, spares, fuel, support, etc.) are considered in making program decisions.
  - Ultimately based on O&S Cost Estimating Structure elements

Applicability

- Sponsors must develop KPP and supporting KSAs for JROC Interest programs involving materiel solutions
- Sponsors who determine KPP does not apply must explain why it is not appropriate.
  - JS-J4 must concur in this recommendation for JROC Interest documents
- Sponsor will determine KPP applicability for non JROC interest programs

Source: CJCSM 3170.01C, 1 May 07

Guidance

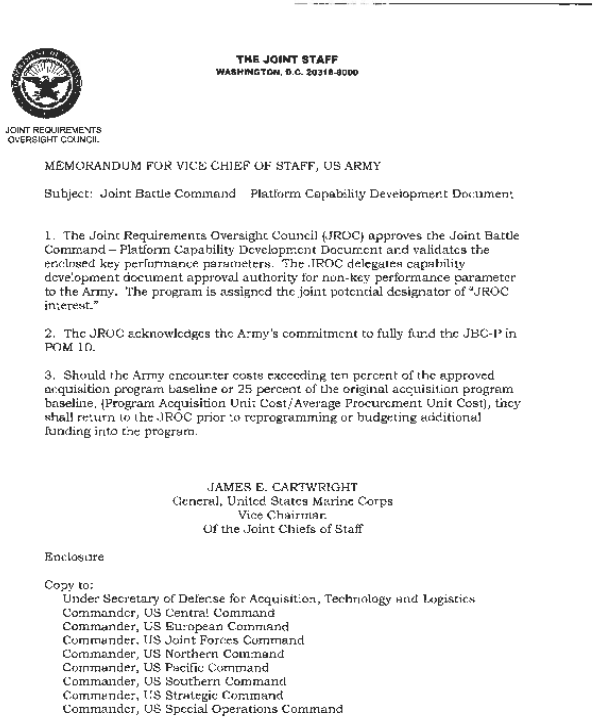
- **Sustainment KPP Guide**
  - Posted in various electronic knowledge centers (i.e.. AKSS, KMDS)
  - Provides key considerations for programs in the development of their rationale
  - Will be incorporated into upcoming revision of CJCSI 3170

- **What the Guide Provides**
  - Defines Pre/Post Milestone B applicability
  - Analytic methods are not directed, but must withstand critical review
  - Supporting data must provide sufficient detail to validate methods

- **Way Ahead: Reliability, Availability, Maintainability and Cost (RAM-C) Rationale Report Handbook**
  - AT&L led effort to rewrite DoD RAM-C Rationale Book from 1985
  - Describes the metrics in depth and more importantly the relationship between them

Observations

- Over 33 programs reviewed since August 2007
- J4 serves as the POC for PMs, OSD, and JS stakeholders regarding KPP issues
  - Analytical data is normally available in other program documents
  - J4, OSD-ATL, and other stakeholders assist with repackaging of data
- Processes requiring further refinement
  - Evaluation of network and software centric/dependent programs
  - Testing of KPP metrics
- KPP implementation = delivery of a better weapon system to the warfighter at best value



THE JOINT STAFF
WASHINGTON, D.C. 20318-9000

JOINT REQUIREMENTS OVERSIGHT COUNCIL

MEMORANDUM FOR VICE CHIEF OF STAFF, US ARMY

Subject: Joint Battle Command – Platform Capability Development Document

1. The Joint Requirements Oversight Council (JROC) approves the Joint Battle Command – Platform Capability Development Document and validates the enclosed key performance parameters. The JROC delegates capability development document approval authority for non-key performance parameter to the Army. The program is assigned the joint potential designator of "JROC interest."

2. The JROC acknowledges the Army's commitment to fully fund the JBC-P in POM 10.

3. Should the Army encounter costs exceeding ten percent of the approved acquisition program baseline or 25 percent of the original acquisition program baseline, (Program Acquisition Unit Cost/Average Procurement Unit Cost), they shall return to the JROC prior to reprogramming or budgeting additional funding into the program.

JAMES E. CARTWRIGHT
General, United States Marine Corps
Vice Chairman
Of the Joint Chiefs of Staff

Enclosure

Copy to:
Under Secretary of Defense for Acquisition, Technology and Logistics
Commander, US Central Command
Commander, US European Command
Commander, US Joint Forces Command
Commander, US Northern Command
Commander, US Pacific Command
Commander, US Southern Command
Commander, US Strategic Command
Commander, US Special Operations Command

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Guide to Sustainment KPP:

https://acc.dau.mil/CommunityBrowser.aspx?id=191656&eid=18073&lang=en

DISCUSSION